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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,124	08/25/2003	Aurelian Vasile Lazarut	X-1391 US	3211

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XILINX, INC
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EXAMINER	
LEVIN, NAUM B	
ART UNIT	**PAPER NUMBER**
2825	
MAIL DATE	**DELIVERY MODE**
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/648,124	LAZARUT ET AL.	
	Examiner	Art Unit	
	Naum B. Levin	2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *21 May 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-8,10-13,16-18 and 21-30* is/are pending in the application.

4a) Of the above claim(s) *11-13 and 26-30* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6- 8, 10 and 21-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to application 10/648,124, and RCE filed on 05/21/2007.

2. Claims 11-13 and 26-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected (please see Office Actions filed on 01/26/07 and 04/11/2007).

3. Applicants have amended independent claims 6 and 21 by including additional limitations. Claims 1-5, 9 and 14-20 have been canceled.

4. Examiner finds Applicant's comments persuasive on the applications of Levi and Miller on the amended claims. However, the newly sited references read on the claims as presently written.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 6, 21, 24 and 25 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In the instant case, such newly added limitations as: "a predetermined client computer"; "a plurality of systems under

test ... shared among said plurality of client computers **by way of said server**" (please also see attached "PTO-413 Interview Summary").

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 6- 8 and 21-25 are rejected under 35 U.S.C. 102(e) as being unpatentable by Odom et al. (US Patent 7,089,466).

7. As to claims 6 and 21 Odom discloses:

(6) A client-server semiconductor verification system, said system comprising:

a plurality of client computers (A client computer system may access this server in order to obtain hardware descriptions and/or instructions used to configure the base card 116. In such an embodiment, clients may be provided – col.7, ll.12-18), wherein each client computer generates a test job for testing a different design of a programmable logic circuit, and comprises test vectors and configuration data for said different design of a programmable logic circuit (In one embodiment, the user may select both the hardware description for the PLD and a particular type of daughter card when reconfiguring the reconfigurable instrumentation card. For example, if the first daughter card is coupled to the base card, the PLD may be configured according to a

first hardware description and the base card may be configured to perform a first portion of the instrumentation tasks. If the second daughter card is coupled to the base card, the PLD may be configured according to a second hardware description and the base card may be configured to perform a second portion of the instrumentation tasks. Thus, by selecting which of the daughter cards is coupled to the base card and/or by selecting which hardware description is used to configure the PLD, the base card may be reconfigured to perform different sets of instrumentation tasks. Instrumentation tasks may include timing, storage, and/or data processing tasks in some embodiments – col.2, ll.59-67; col.3, ll.1-9; An instrument is a device that collects data or information from an environment or unit under test (UUT) and displays this information to a user. ... An instrument may provide test stimuli to a ULUT – col.1, ll.14-18; Scientists and engineers often use instrumentation or DAQ (data acquisition) systems to perform ... test – col. 1, ll.25-27) (col.1, ll.14-31; col.2, ll.47-67; col.3, ll.1-9; col.7, ll.12-18);

a server coupled to said client computer by way of a network (If several hardware descriptions and/or instructions may be used with a given base card/daughter card combination, the host computer system may provide a pop-up menu to a user, allowing the user to select which hardware description and/or instructions are used to configure the base card – col.7, ll.33-38), said server receiving said test job from said client computer (the host computer system may be running an application such as LabVIEW FPGA, which may be used to create at least a portion of the hardware description for a given configuration as described above. By configuring the PLD according to different hardware descriptions, and/or by providing different instructions to the PLD and/or

processor or CPU to be executed, different operations may be performed by the base card 116. Accordingly, by reprogramming which operations the base card 116 performs and/or attaching different daughter cards 118 to the base card, an instrumentation card 114 may be given different personalities – col.7, ll.39-50; An instrument may provide test stimuli to a ULUT – col.1, ll.14-18) (col.1, ll.14-18; col.7, ll.23-50; col.2, ll.55-65); and

a plurality of systems under test (Fig. 2) coupled to said server (the instrumentation card 114 may be a device external to the computer 102 that is coupled to the unit under test (UUT) or process under test and to the computer 102. The computer 102 may connect through the one or more instrumentation cards 114 to analyze, measure, or control a unit under test (UUT) or process under test 130 – col.4, ll.21-27; FIG. 2 shows another illustrative instrumentation system 200 –col.4, ll.43-54) and shared among said plurality of client computers (In computerized instrumentation systems, the user may interact with an instrumentation system through a host computer system – col.1, ll.44-46), wherein each system under test has a different programmable logic device architecture (If several hardware descriptions and/or instructions may be used with a given base card/daughter card combination, the host computer system may provide a pop-up menu to a user, allowing the user to select which hardware description and/or instructions are used to configure the base card. In one embodiment, the host computer system may be running an application such as LabVIEW FPGA, which may be used to create at least a portion of the hardware description for a given configuration as described above. By configuring the PLD according to different hardware

descriptions, and/or by providing different instructions to the PLD and/or processor or CPU to be executed, different operations may be performed by the base card 116. Accordingly, by reprogramming which operations the base card 116 performs and/or attaching different daughter cards 118 to the base card, an instrumentation card 114 may be given different personalities - col.7, ll.33-50), and wherein each system under test has a programmable logic circuit which is configured with said design of a programmable logic circuit implemented according to configuration data of said test job from said client computer (In addition to attaching different daughter cards 118, programmable logic on base card 116 may be reprogrammed and/or reconfigured in order to give the instrumentation card 114 a desired personality - col.10, ll.29-32) and receives corresponding test vectors of said test job of said client computer and outputs result vectors to said client computer by way of said server (For example, the instrumentation card 114 may be configured to output waveforms to stimulate a UUT or process under test and/or to receive waveforms produced by the UUT in response to stimuli- col.9, ll.16-20) (col.1, ll.14-24; col.1, ll.42-51; col.4, ll.8-28; col.4, ll.43-54; col.7, ll.23-50; col.8, ll.21-53; col.9, ll.3-41; col.10, ll.26-45);

(21) A method of verifying a semiconductor design by way of a server comprising steps of:

coupling a plurality of client computers (A client computer system may access this server in order to obtain hardware descriptions and/or instructions used to configure the base card 116. In such an embodiment, clients may be provided – col.7, ll.12-18), wherein each client computer generates a test job for testing a different design of a

programmable logic circuit, and comprises test vectors and configuration data for said different design of a programmable logic circuit (In one embodiment, the user may select both the hardware description for the PLD and a particular type of daughter card when reconfiguring the reconfigurable instrumentation card. For example, if the first daughter card is coupled to the base card, the PLD may be configured according to a first hardware description and the base card may be configured to perform a first portion of the instrumentation tasks. If the second daughter card is coupled to the base card, the PLD may be configured according to a second hardware description and the base card may be configured to perform a second portion of the instrumentation tasks. Thus, by selecting which of the daughter cards is coupled to the base card and/or by selecting which hardware description is used to configure the PLD, the base card may be reconfigured to perform different sets of instrumentation tasks. Instrumentation tasks may include timing, storage, and/or data processing tasks in some embodiments – col.2, ll.59-67; col.3, ll.1-9; An instrument is a device that collects data or information from an environment or unit under test (UUT) and displays this information to a user. ... An instrument may provide test stimuli to a ULUT – col.1, ll.14-18; Scientists and engineers often use instrumentation or DAQ (data acquisition) systems to perform ... test – col. 1, ll.25-27) (col.1, ll.14-31; col.2, ll.47-67; col.3, ll.1-9; col.7, ll.12-18);

a server coupled to said client computer by way of a network (If several hardware descriptions and/or instructions may be used with a given base card/daughter card combination, the host computer system may provide a pop-up menu to a user, allowing the user to select which hardware description and/or instructions are used to configure

the base card – col.7, ll.33-38), said server receiving said test job from said client computer (the host computer system may be running an application such as LabVIEW FPGA, which may be used to create at least a portion of the hardware description for a given configuration as described above. By configuring the PLD according to different hardware descriptions, and/or by providing different instructions to the PLD and/or processor or CPU to be executed, different operations may be performed by the base card 116. Accordingly, by reprogramming which operations the base card 116 performs and/or attaching different daughter cards 118 to the base card, an instrumentation card 114 may be given different personalities – col.7, ll.39-50; An instrument may provide test stimuli to a ULUT – col.1, ll.14-18) (col.1, ll.14-18; col.7, ll.23-50; col.2, ll.55-65); and

a plurality of systems under test (Fig. 2) coupled to said server (the instrumentation card 114 may be a device external to the computer 102 that is coupled to the unit under test (UUT) or process under test and to the computer 102. The computer 102 may connect through the one or more instrumentation cards 114 to analyze, measure, or control a unit under test (UUT) or process under test 130 – col.4, ll.21-27; FIG. 2 shows another illustrative instrumentation system 200 –col.4, ll.43-54) and shared among said plurality of client computers (In computerized instrumentation systems, the user may interact with an instrumentation system through a host computer system – col.1, ll.44-46), wherein each system under test has a different programmable logic device architecture (If several hardware descriptions and/or instructions may be used with a given base card/daughter card combination, the host computer system may

provide a pop-up menu to a user, allowing the user to select which hardware description and/or instructions are used to configure the base card. In one embodiment, the host computer system may be running an application such as LabVIEW FPGA, which may be used to create at least a portion of the hardware description for a given configuration as described above. By configuring the PLD according to different hardware descriptions, and/or by providing different instructions to the PLD and/or processor or CPU to be executed, different operations may be performed by the base card 116. Accordingly, by reprogramming which operations the base card 116 performs and/or attaching different daughter cards 118 to the base card, an instrumentation card 114 may be given different personalities - col.7, ll.33-50), and wherein each system under test has a programmable logic circuit which is configured with said design of a programmable logic circuit implemented according to configuration data of said test job from said client computer (In addition to attaching different daughter cards 118, programmable logic on base card 116 may be reprogrammed and/or reconfigured in order to give the instrumentation card 114 a desired personality - col.10, ll.29-32) and receives corresponding test vectors of said test job of said client computer and outputs/compares result vectors to said client computer by way of said server (For example, the instrumentation card 114 may be configured to output waveforms to stimulate a UUT or process under test and/or to receive waveforms produced by the UUT in response to stimuli- col.9, ll.16-20) (col.1, ll.14-24; col.1, ll.42-51; col.4, ll.8-28; col.4, ll.43-54; col.7, ll.23-50; col.8, ll.21-53; col.9, ll.3-41; col.10, ll.26-45; col.11, ll.45-56).

8. As to claims 7-8 and 22-25 Odom recites:

(7), (8), (23) The system/method, wherein said server comprises a network interface and a system under test interface (col.1, ll.42-67; col.2, ll.1-43; col.6, ll.9-28; col.7, ll.51-67);

(22) The method comprising step of coupling said plurality of systems under test to said test server (col.1, ll.14-24; col.1, ll.42-51; col.4, ll.8-28; col.4, ll.43-54; col.7, ll.23-50; col.8, ll.21-53; col.9, ll.3-41; col.10, ll.26-45; col.11, ll.45-56);

(24), (25) The method further comprising a step of coupling said result vectors to said client and comparing said result vectors (col.1, ll.14-24; col.1, ll.42-51; col.4, ll.8-28; col.4, ll.43-54; col.7, ll.23-50; col.8, ll.21-53; col.9, ll.3-41; col.10, ll.26-45; col.11, ll.45-56).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claim 10 are rejected under 35 U.S.C. 103(a) as being unpatentable by Odom in view of Wiedeman et al. (US Patent 6,499,115).

With respect to claim 10 Odom teaches the features above but lacks a client-server semiconductor verification system further comprising another server coupled to said plurality of client computers by way of the network.

10. As to claim 10 Wiedeman recites:

(10) The system of claim 6 further comprising another server coupled to said plurality of client computers by way of the network (Abstract; col.4, ll.54-67; col.5, ll.1-7).

It would have been obvious to a person of ordinary skills in the art at the time the invention was made to employ Wiedeman's teaching regarding the client-server semiconductor verification system further comprising another server coupled to said plurality of client computers by way of the network and use it in Odom's invention to decrease a duration of the verification period for each system under test, thereby increasing an efficiency of the client-server semiconductor verification system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naum B. Levin whose telephone number is 571-272-1898. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

N L

JACK CHIANG
SUPERVISORY PATENT EXAMINER